PATENT
Docket No.: NL030649US1
Customer No. 000024737

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	§	
Marc Andre De Samber et al.	§	Confirmation No. 7189
	§	
Serial No.: 10/558,719	§	Group Art Unit: 2629
	§	
Filed: November 29, 2005	§	Examiner: Christopher E. Leiby
	§	
For: OPTO-ELECTRONIC INPUT DEVICE, METHOD OF MANUFACTURING SUCH A DEVICE AND METHOD OF MEASURING THE MOVEMENT OF AN OBJECT BY MEANS OF SUCH A DEVICE	§	

RESPONSE TO NOTICE OF NON-COMPLIANT APPEAL BRIEF PURSUANT TO 37 C.F.R. §41.37

Mail Stop **APPEAL BRIEF - PATENTS**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellants hereby submit this response to the notice of non-compliant Appeal Brief mailed 12 August 2009, in connection with their Appeal Brief in response to the final rejection of the present application filed on 08 July 2009.

Replacement for **Section VI** of the Appeal Brief begins on page 2 of this paper.

Remarks begin on page 8 of this paper.

Please replace the existing Section VI with the following rewritten Section VI:

VI. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to an opto-electronic input device (10) (See FIGs. 2 and 4), wherein the input is formed by detected movements of an object (M). The input device (10) is provided with an optical module comprising (i) at least one laser (1) with a resonant cavity for generating a measurement radiation beam (S), (ii) optical means (2,6,8) for guiding the radiation beam (S) to a plate (V: V1,V2) close to the object (M), and (iii) conversion means (3) for converting radiation from the measurement radiation beam (S), which is reflected by the object (M), into an electric signal. The conversion means are formed by the combination of the resonant cavity (2,6,8) of the laser (1) and measurement means (3) for measuring a change in the resonant cavity during operation, which change is caused by interference of the reflected radiation from the measurement radiation beam (S), which penetrates the resonant cavity (2,6,8), and a standing wave in the resonant cavity, and which is representative of a relative movement of the object (M) with respect to the module (10). The optical module (10) comprises the laser (1) mounted on a carrier plate (4), and the optical means comprise an optical component (2,6,8) mounted on the carrier plate (4) and aligned with the laser (1), from which optical component the measurement radiation beam emitted (S) by the laser (1) travels to the plate (V: V1,V2) close to the object M. (See Appellants' specification on page 1, lines 1-19; and FIGs. 2 and 4).

The present invention effectively overcomes two inherently conflicting requirements, namely that on the one hand, a moveable plate (i.e., transparent moveable plate) is undesirable because it might adversely affect the operation of the opto-electronic device, and on the other hand, a rigid plate (i.e., rigid transparent plate) does not provide feedback (i.e., tactile or acoustic feedback) to the user. (See Appellants' specification on page 2, line 29 through page 3, line 2). In the embodiments

as claimed, the plate (V) comprises a stationary transparent first portion (V1) and a moveable non-transparent second portion (V2), both of which are situated within a projection of the object (M). (See Appellants' specification on page 4, lines 30-34). In particular, the first portion (V1) comprises an upper surface of a transparent block-shaped body (6) which is configured to enable passage of the radiation beam (S) upon entering near a lower sidewall (16) and through multiple internal reflections against sidewalls of the transparent block-shaped body (6) to the upper surface (V1) of the transparent block-shaped body. The lengthened light path (S) created by the multiple reflections against the sidewalls of the transparent block-shaped body (6) advantageously provide a favorable effect on the proper operation of the opto-electronic detection of movement of object M. (See Appellants' specification on page 3, lines 17-19, 26-29, and 33-34; page 8, lines 11-14; FIGs. 2 and 4.)

As claimed in independent claim 1 (one of two independent claims), the invention comprises an opto-electronic input device (10), wherein the input is formed by detected movements of an object (M). (See Appellants' specification FIGs 2 and 4). The input device includes an optical module (11) comprising at least one laser (1) with a resonant cavity (2,6,8) for generating a measurement radiation beam (S), optical means (2,6,8) for guiding the radiation beam (S) to a plate (V) close to the object (M), and conversion means for converting radiation from the measurement radiation beam (S), which is reflected by the object (M), into an electric signal. The conversion means are formed by the combination of the resonant cavity (2,6,8) of the laser (1) and measurement means (3) for measuring a change in the resonant cavity during operation. The change is caused by interference of the reflected radiation from the measurement radiation beam (S), which penetrates the resonant cavity, and the standing wave in the resonant cavity. The change is representative of a relative movement of the object (M) with respect to the module (11). The optical module (11) more particularly comprises the laser (1) mounted on a carrier plate (4), and the optical means comprise an optical component (2,6,8) mounted on the carrier plate and aligned with the laser (1), from which optical

component the measurement radiation beam (S) emitted by the laser travels to the plate (V: V1,V2) close to the object (M). The plate (V: V1,V2) comprises, close to the object (M), a first portion (V1) that comprises an upper surface of a transparent block-shaped body (6) which is situated within a projection of the object (M), wherein the transparent block-shaped body (6) (i) is configured to enable passage of the radiation beam (S) upon entering near a lower sidewall (16) and through multiple internal reflections against sidewalls of the transparent block-shaped body to the upper surface (V1) of the transparent block-shaped body (6) and (ii) is situated in a fixed position with respect to the carrier plate (4) in that the transparent block-shaped body is mounted onto the carrier plate. The plate (V: V1,V2) further comprises a second portion (V2) which is situated within a projection of the object (M) and is movable in a direction perpendicular to the carrier plate (4), wherein the second portion (V2) comprises signaling means (5,V2) which, in response to movement of the second portion (V2) in the direction perpendicular to the carrier plate (4), is configured to issue a signal that can be perceived by a user of the device (10) with one of his senses. (See page 6, lines 7-17, page 8, lines 7-14, and Figures 2 and 4, for example, of Appellants' specification.)

As claimed in dependent claim 6, the invention comprises the opto-electronic device (10) of claim 1, wherein the signaling means (5,V2) comprise a press button which springs back after the press button (5,V2) has been pressed, and which provides an experience for the tactile sense of the user when the press button (5,V2) is pressed, wherein the press button, upon being pressed, emits an acoustic signal that can be heard by the user, the opto-electronic device (10) further comprising: a microphone (33) configured to convert the acoustic signal of the press button (5,V2) to an electric signal, wherein the electric signal is used to wake up the device (10) from an energy-saving sleep mode. (See page 3, lines 3-8; page 4, lines 6-7; page 7, lines 1-4, and Figures 2 and 4, for example, of Appellants' specification.)

As claimed in dependent claim 9, the invention comprises the opto-electronic input device of claim 1, wherein the signaling means (5,V2) comprise a press button

(See Appellants' specification on page 3, lines 7-14; and FIG. 2) which springs back after the press button has been pressed, and which provides an experience for the tactile sense of the user when the press button is pressed; wherein the transparent block-shaped body (6) of the first portion of the plate (V1) comprises a round, transparent, block-shaped body which is attached onto the carrier plate (4), and the press button (5,V2) comprises, in the center thereof, a round opening (5A) (See Appellants' specification on page 3, lines 7-14; page 6, lines 7-17; and FIG. 2) within which the round, transparent, block-shaped body (6) is situated, the upper face (V1) of said block-shaped body (6) being substantially flush with an upper face (V2) of the press button (5,V2), or being situated lower by an amount necessary to enable the press button to be pressed (See Appellants' specification on page 6, lines 12-17); and wherein, near the lower sidewall (16) of the transparent block-shaped body (6) (See Appellants' specification on page 6, lines 25-27 and FIG. 2), the measurement radiation beam (S) is introduced into said transparent block-shaped body (6) at an angle such that the measurement radiation beam (S) moves spirally to the upper surface of the transparent block-shaped body (See Appellants' specification on page 3, lines 18-19, 26-29 and 33-34; and FIG. 2).

As claimed in dependent claim 15, the invention comprises the opto-electronic input device of claim 1, wherein the signaling means comprise a press button (5,V2) (See Appellants' specification on page 8, lines 11-16; and FIG. 4) which springs back after the press button (5,V2) has been pressed, and which provides an experience for the tactile sense of the user when the press button is pressed; wherein the transparent block-shaped body (6) of the first portion of the plate (V1) comprises a ring-shaped, transparent, block-shaped body which is attached onto the carrier plate (4) (See Appellants' specification on page 8, lines 7-8; and FIG. 4), and the press button (5,V2) is situated within the ring-shaped, transparent, block-shaped body (6) the upper face of which is substantially flush with an upper face (V2) of the press button (5,V2) (See FIG. 4); wherein, near the lower sidewall (See page 8, lines 17-19; and FIG. 4) of the

transparent block-shaped body (6), the measurement radiation beam (S) is introduced into said transparent block-shaped body (6) at an angle such that the measurement radiation beam (S) moves spirally to the upper surface (V1) of the transparent block-shaped body (6) (See page 8, lines 11-14; and FIG. 4).

As claimed in independent claim 14 (the second of two independent claims), the invention comprises a method of manufacturing an opto-electronic input device (10), wherein the input is formed by detected movements of an object (M). (See Appellants' specification FIGs 2 and 4). The input device is provided with an optical module (11) comprising at least one laser (1) with a resonant cavity (2,6,8) for generating a measurement radiation beam (S), optical means (2,6,8) for guiding the radiation beam (S) to a plate (V) close to the object (M), and conversion means for converting radiation from the measurement radiation beam (S), which is reflected by the object (M), into an electric signal. The conversion means are formed by the combination of the resonant cavity (2,6,8) of the laser (1) and measurement means (3) for measuring a change in the resonant cavity during operation. The change is caused by interference of the reflected radiation from the measurement radiation beam (S) penetrating the resonant cavity and the standing wave in the resonant cavity. The change is representative of a relative movement of the object (M) with respect to the module (11). The optical module (11) is formed by a carrier plate (4) on which the laser (1) is mounted, and the optical means are formed by an optical component (2,6,8), mounted on the carrier plate (4) and aligned with the laser (1), for the measurement radiation beam (S) emitted by the laser (1), which measurement radiation beam (S) is guided from said location to the plate (V) close to the object (M). Near the object (M), the plate (V) is formed in two portions (V1, V2, FIGs. 2, 4). The first portion (V1) comprises an upper surface of a transparent block-shaped body (6) situated within a projection of the object (M), wherein the transparent block-shaped body (6) (i) is designed so as to transmit the radiation beam (S) upon entering near a lower sidewall (16) and through multiple internal reflections against sidewalls of the transparent block-shaped body (6) to the upper surface (V1) of

the transparent block-shaped body (6) and (ii) is arranged in a fixed position with respect to the carrier plate (4) in that the transparent block-shaped body (6) is mounted onto the carrier plate (4). The second portion (V2) situated within a projection of the object (M) is formed so as to be movable in a direction perpendicular to the carrier plate (4), wherein the second portion (V2) comprises signaling means (5,V2) which, in response to movement of the second portion (V2) in a direction perpendicular to the carrier plate (4), is configured to emit a signal that can be perceived by one of the senses of the user of the device (10). (See page 6, lines 7-17, page 8, lines 7-14, and Figures 2 and 4, for example, of Appellants' specification.)

REMARKS

The Appeal Brief filed on 08 July 2009 stands defective for failure to comply with the provision of 37 CFR 41.37, and in particular, the brief does not contain a concise explanation of the subject matter defined in each of the independent claims in the appeal. Per the explanation in support of non-compliance, the notice (at line item 10. thereof) indicates that "*Section VI: Summary of claimed subject matter must map and identify each independent claim (claim 14) on appeal to specification by page and line number and drawings, if any. The entire brief is not required for the above correction.*"

The non-compliance of the Appeal Brief filed on 08 July 2009 is now believed cured for at least the following reasons. **Section VI** presented herein replaces the original Section VI submitted with the Appeal Brief filed on 08 July 2009. In the replacement Section VI, the summary of independent claim 14 has been rewritten to map and identify elements of the claim to the specification by page and line number and drawings, if any. Withdrawal of the non-compliance of the Appeal Brief is respectfully requested.

Respectfully submitted,

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